UW TASP tele-antimicrobial stewardship program | echo

Sept 5, 2017

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Agenda

- Didactic: *Bacteremia*
- Case Discussion
- Open Discussion

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Bacteremia

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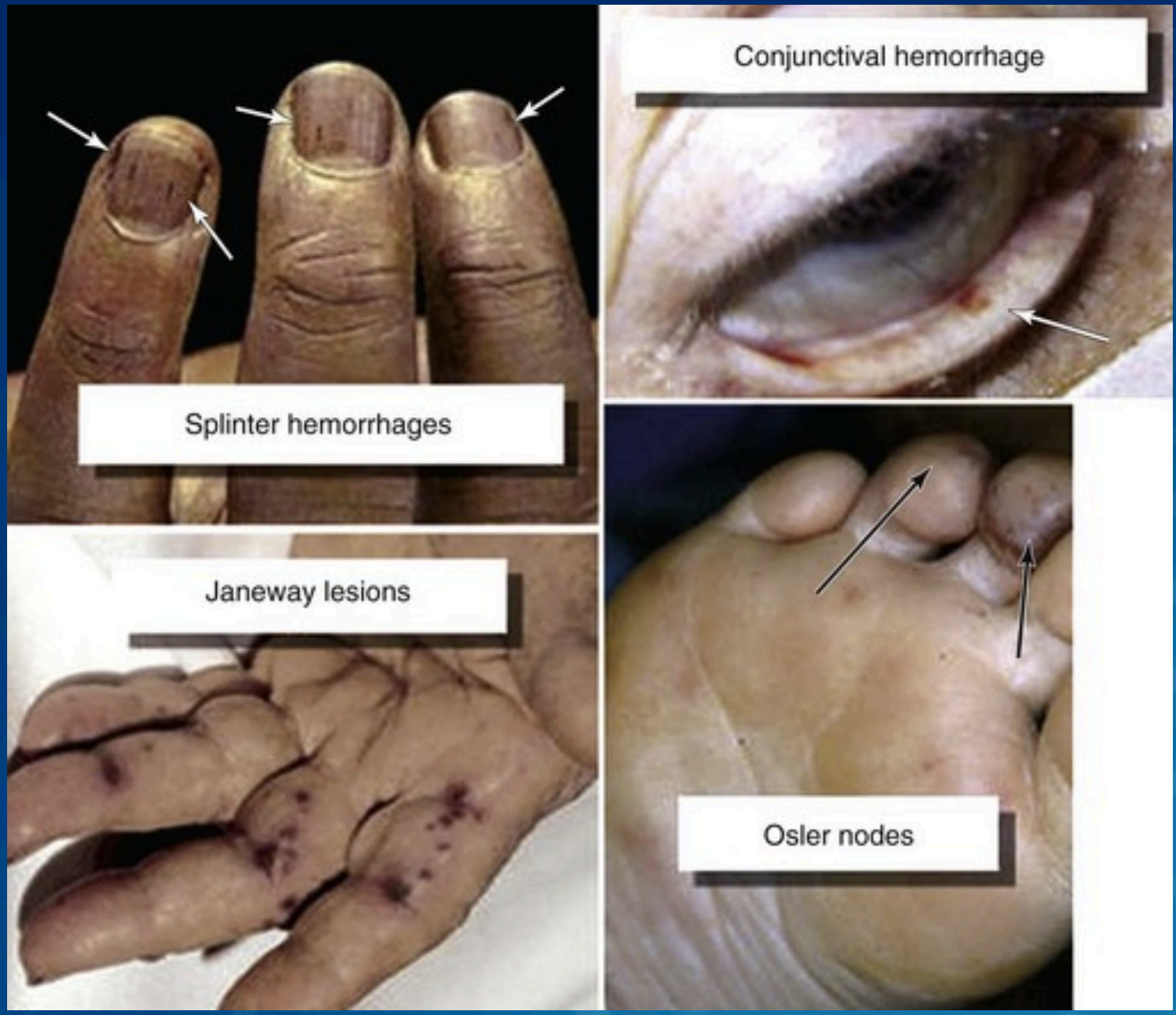
Definitions

- The presence of bacteria in the bloodstream
  - GPCs
  - GNRs
- Uncomplicated vs complicated vs unknown source
- Community-acquired vs hospital-acquired
- Catheter-related
- Endocarditis

Staphylococcal Bacteremia

- Most common pathogen
- High mortality rates (30-days ~20%, but up to 40%)
- Outcomes worse with MRSA, including treatment failure and recurrence
- Careful history and physical exam are key
  - Back pain
  - Abdominal pain
  - Fevers and sweats
  - Stigmata of emboli



Staphylococcal Bacteremia Initial Steps

- Keys to management
  - 2 sets of initial blood cultures (2 sets, not through IV insertion)
  - Empiric antimicrobials early
  - Echocardiography
  - Daily or every other day blood cultures to document clearance
  - Remove focus of infection if possible (abscesses or prosthetic material)

TTE vs TEE

- 7% vs 25% of endocarditis diagnoses
- Complicated bacteremia
  - Persistently positive cultures
  - Unknown duration (community-onset)
  - Prosthetic material
  - Predisposing valvular abnormality
  - IVDU

Staphylococcal Bacteremia Treatment

- Empiric: vancomycin
- Directed
  - MSSA: cefazolin or nafcillin
  - MRSA: vancomycin or daptomycin (right-sided endocarditis) or ceftaroline*
- Minimum of 14 days of therapy counting from the first day of negative blood cultures
- Endocarditis duration is much longer (and will be discussed at a later date)

GNR Bacteremia

- Historically more common type of bacteremia in the community
- Risk factors:
  - Age
  - DM
  - ESRD on HD
  - Steroids
  - Immunocompromised
  - Chronic urinary catheter use

GNR Bacteremia

- Community-onset
  - *E. coli*
  - Klebsiella
  - Pseudomonas
- ICU-onset
  - Pseudomonas
  - Enterobacter
  - Klebsiella
  - *E. coli*
- Antimicrobial resistance more problematic

GNR Bacteremia Initial Steps

- Keys to management
  - 2 sets of initial blood cultures
  - Empiric antimicrobials early
  - Daily or every other day blood cultures to document clearance
  - Remove focus of infection if possible (abscesses or prosthetic material)
- Duration for bacteremia is 14 days from first negative culture

GNR Bacteremia Treatment

- Therapy strongly dependent on risk factors
- Potential empiric agents:
  - Ceftriaxone*
  - Ceftazidime
  - Cefepime
  - Meropenem or imipenem
  - Pipericillin-tazobactam
  - Combination therapy?
- Directed therapy based on pathogen and susceptibilities
- Remove focus of infection if possible

References

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